No 8

No 65

Mercury

An inaugural dissertation on the use of Mercury, in the cure of certain diseases; —

Submitted,
to the medical Faculty,
of the
University of Pennsylvania,
for the degree of M.D.

By,
S. T. Walton.
of North Carolina,
Oxford, ~~Granville~~

Passed March 18th 1823

Introduction.

In treating on this subject we shall consider it under the following heads viz:

A Dissertation on Mercury &c

Amongst the many interesting subjects which present themselves to our notice, there are but few more worthy of our attentive consideration than Mercury, as applied to the cure of certain diseases.

It was first used as a medicine by the Arabians. But they restricted its use entirely to the cutaneous affections; & it was not until about the seventeenth century that mercury was internally employed. Anterior to that date it was only applied to the superficies of the body, in the form of liniment, ointment, or fumigation. In these forms it was employed in cutaneous affections. And its efficacy in these cases, most probably first suggested its use in Lues Venerea. It is said the Red precipitate was one of the first preparations used: but it was soon succeeded by a much milder preparation made by triturating the Argentum Vivum itself with Rhubarb & other articles which formed a pill similar to the modern "blue pill".

It
lient
nal
intr
view
sug-
the
dev
the
a fr
and
Am
tne
phy
tuc
ure
The
be of
lose
the

It was not until about the middle of the seventeenth century that Mercury began to excite general attention in the medical world. And its introduction into the cure of fevers, particularly was viewed with much distrust & great caution was used by all in its administration. It may be said that the discovery of its utility in many diseases is almost entirely derived from the physicians of the United States; for at the time that it was generally prescribed in Europe as a precarious remedy in the cure of diseases, it was countenanced by some of the most distinguished physicians in America. —

Here too it met with violent opposition, And many physicians who had to a certain extent tested its virtues, & felt impressed with the necessity of its use, were often obliged to conceal it from their patients. The famous prescription of "Ten Ten" during the life of Professor Rush" was considered by many as a very large dose. — But in this, as in many other instances the extreme versatility of man is conspicuous. And

this medicine, which but a few years since was viewed with distrust, & used with extreme caution even by the most distinguished physicians, is now to be found in the hands of all, from the most distinguished practitioner, to the most illiterate and ignorant peasant. It has become a panacea. The first, and the dernier resort of thousands, who seek with avidity a mineral, the virtues of which they are unacquainted except from general acceptation.

Chapter II.

On the modus operandi of Mercury in a combined state.

It must ever be lamented that this medicine is so generally, & indiscriminately used. Instead of giving it to fulfil some clearly defined indication as are many other remedies; it is by a large majority of Physicians given as a specifick for symptoms they not how to meet. We repeat that it is to be lamented that it should ever have become so popular a remedy in the

in the cure of certain diseases, unless the limits to its exhibition, & the rules which should govern us in its use could have been more clearly defined. We have long been persuaded, that a treatise on this subject adapted to the diseases of the United States, would be of great value to our young practitioners particularly, provided it was written by a physician of sufficient eminence to make it respectable. We have been lead to this conclusion from having seen it frequently given by men of respectable acquirements very improperly. It is in the hands of many indolent, & ignorant practitioners a sword to cut a knot which they have not the ability or industry to untie.

But it must be remembered to the credit of the medical profession that many of its most distinguished votaries have at various times devoted themselves assiduously to this subject. But we fear that very few, if any, have been able to assign to it its proper place, or to define with sufficient precision the rule for its application to disease on general principles so as to enable men the least judgment to prescribe without

without frequently abusing it. — And, although, experience has enabled many to prescribe with some certainty as to its ultimate effects; yet many of its most important bearings is still unknown, & its modus operandi in many of the diseases to which it is applied is as yet only guessed at. —

It would be a useless consumption of time to advert to the many theories, which have from time to time been industriously promulgated as to the Modus Operandi of Mercury. It will be sufficient for our purpose merely to glance at some of the most respectable authorities on the subject. And these naturally divide themselves into two classes viz:

1st Those who suppose it enters the calculation, by some process unknown, or unexplained, thence eliminates the morbific matter. —

2nd Those who contend that it removes the disease by counter-action, & from the strong impression it makes overcomes the original disease —

3rd

Both these theories have been supported by able, &

distinguished men, but the weight of authority is in favor of the latter opinion. It had been stated by several distinguished men, that mercury could be detected in the blood & secretions of persons subjected to a profuse salivation. To settle this question many experiments were made with very different results from those made by Boerhaave, Hamilton, & others.

Amongst these Medical Physicians of this city, includes a number of experiments with their cases. In patients labouring under profuse salivation he could not detect a single particle of mercury either in the blood or saliva of such persons, or if it exists, it entirely escaped his researches.

Mr John Hunter whose fame is imperishable, & whose physiological researches, for minuteness & precision have not been exceeded, remarks, that "the efficacy of Mercury in syphilis depends on its general, permanent, & constant operation on the system; by which it induces & keeps up an action incompatible with that morbid action which constitutes the disease called the venereal destroyed."

That Mercury in a combined state does not act as a powerful stimulant

Similar to the first & natural is at present conceded on all hands. Under this [illegible] & the [illegible] [illegible] to [illegible] from the [illegible] of the most delicate & debilitated constitutions, it exhibits a huffy and somewhat similar to that drawn from persons laboring under an inflammatory affection, attended by more or less febrile action, & this febrile state is generally succeeded by emaciation.

That it acts as a stimulant, we infer also from the following considerations, 1st It increases the action of the stomach & intestines. & 2dly It acts too very powerfully on the glandular system, increasing the secretions & forming the discharge from the skin. ——

This stimulant effect on the human system must not be confounded with that which arises from the exhibition of Alcohol, Ether &c. it is of a nature "sui generis"

In concluding the remarks on the modus operandi of Mercury, an objection to its curative effect in syphilis & some other diseases simply by exciting a counter disease very naturally suggests itself. — If it had nothing specific in its action but was useful only by inducing a mercurial disease, why might not we remove syphilis (for in this instance only there seems to be a tolerable

exception

exception to the general rule) by giving for instance the Arsenite of Potash? With this we may keep up constantly a morbid action on the stomach (through this upon the other organs of the body) which will destroy eventually the morbid action induced by the original disease. Yet it is generally believed that in obstinate cases of syphilis no other remedy will answer.

We must own our utter inability to ascertain with any degree of certainty its mode of operation; instead of wasting time unnecessarily in attempts which must be futile; We shall pass to the consideration of the Mercury as a purgative

Chapter III
Use of Mercury as a purgative

With this view it has for several years superseded almost all other purgatives. And its utility in many cases is indisputable. But in this as in many other instances the extreme fickleness, & pliancy of man have induced them to run into extremes. But a few years since it was used with distrust & caution

& caution, is now exhibited for every frivolous complaint. In the southern States particularly it is the remedy in Catarrh, Erysipelas, & fever, without any special reference to the particular stage of the disease in which it might be proper, or at least innocent. "Jalap & Calomel" have become as proverbial in North Carolina as "tin tea"* were in the time of Dr. Rush in the case of Yellow fever. And although they are frequently subjected to some of the unpleasant, & sometimes dangerous diseases which arise from its indiscriminate use; so strong is popular opinion in its favor that no change is effected in public sentiments. —

But this indiscriminate, & we might properly add empirical use of the medicine is not by any means restricted to adults only, for in consequence of its easy exhibition it becomes almost the only remedy for our children.

Nothing is more common say one of our most distinguished physicians, when a physician is called in to see a child laboring under common or rather theory fever, for him to prescribe Calomel largely with directions to repeat the use

* [illegible]

"the dose every day. In three or four days he returns, to
"then able to inform the distressed parents that their
"child labors under Hydrocephalus Internus. A disease
"comparatively mild thus is by the improper use
"of Mercury converted into one of the most formidable
"maladies. — He continues by saying "that the determina-
"tion of blood to the head in children is very considerable
"this determination in adults this determination is increased by the
"calomel. From some cause or other the Calomel may not
"have operated at all, or if it did, not sufficiently, actively
to counteract its stimulant effects; & effusion often is the
consequence. —

We object too, to its indiscriminate use in the diseases
of children from a knowledge of the fact that most
mothers in order to tranquilize their children cannot
be prevented by the authority of their Physician from
nursing it during the operation of the medicine.
And in febrile affections generally the thirst of the
little sufferers is so great that it is almost impossible
to deny them the gratification of a little water. This
frequently repeated is often a source of much evil to
the patient. We are aware that these facts of
themselves

themselves are not sufficient to preclude its use when it becomes absolutely necessary, yet when a disease is easily managed by milder articles, & the greater number are) these should undoubtedly be preferred. We have been more particular in these remarks, than we otherwise should have been, had we not seen this medicine so frequently given to children for trifling affections (which required scarcely anything for their cure) merely on account of its being tasteless, & therefore easily exhibited —

Not a little has been said of the use of Calomel in febrile affections: & no article in the Materia Medica is more generally employed as a purgative, alone or in combination with Jalap, Castor oil &c.
It can be often properly given in these affections, yet we would not generally recommend it as a purgative unless we had some specific object in view: unless the fever was associated with some circumstances in which we could call in the specific effects of the medicine as an auxiliary. —
No respectable physician in the present enlightened age would prefer calomel as a purgative in active inflammation

inflammation of any of the organs of the body, who could produce only of the purging. Neutral salts. Dissections show that in most instances where fevers terminate fatally some of the viscera of the body are inflamed. Blood drawn from the arm during typhoid fever exhibits the same appearances, as in Erysipelas or common phlegmonous inflammation. Hence in many instances we could not on general principles prefer calomel to other medicines better calculated to depress inordinate arterial action.

In certain conditions of the alimentary canal it may be used with advantage, when for instance, there was much torpor pervading the stomach & intestinal tube, with an engorgement of the liver. Perhaps in these cases from the inexplicable affinity, one may suppose to have for the glands of the body it might be of considerable service. In cases too of suddenly obstructed bile in the acute stage of fever where the usual depleting remedies had failed to remove such obstruction, it might be used, as well as in those cases that were either aggravated or protracted in consequence of some visceral obstruction. It will be unnecessary to enter into a minute detail

of the

of the particular cases to which it may or may not be appropriate; the limits generally assigned to a treatise will not permit. From what has been said they may be inferred. — Dismissing therefore any further reflections on its use as a purgative we shall next consider its use as a Sialagogue. —

Chapter IV.

Use of Mercury as a Sialagogue.

Urged to an extent to produce a copious salivation Mercury becomes more injurious than in any other way.
It is too frequently the case that physicians particularly in its application to fever are entirely premature. No sooner have they partially cleansed the alimentary canal, than they commence with small doses of the medicine with a view to produce a ptyalism, when if there were no other objections to its use, it would be impossible to endure it from the high degree of febrile action that exists. It is now generally believed that there is a "salivating point" at which Mercury acts with the greatest promptitude & in the smallest quantities. Where shall we fix this point?

Not

V

Not in a state of health, where the functions of the body are vigorous: nor in a condition of the body where a part or the whole of the several systems are in a state of irritation. To produce a mild, sufficient ptyalism we would prefer that state of the system which was rather below the healthy standard, & where it did not greatly transcend that point —

We would not think it proper to introduce Mercury into the system with a view to excite a ptyalism when the action was steadily above the healthy standard; because it is generally impracticable, & when it is excited under those circumstances it does not show itself in that benign manner which it does under an opposite state of the system. We have hinted above that we would object to its use as a general rule in persons greatly debilitated, which may seem to contradict what has been heretofore said "that it acts as a stimulant to the heart & arteries". To reconcile this seeming contradiction, we remark as we go that it most probably does not act as other stimulants of the Materia Medica, for if it did the great emaciation & debility that follows a salivation may subject the patient to all the diseases which await a greatly debilitated state of the body, such as diarrhoea &c. Upon the whole we should seem

think of

thought of prescribing Calomel with this view in fever, unless in protracted cases where was either a clear intermission or remission the pulse rather soft, & compressible, the tongue moist – the skin soft &c. – In this view of the application of Mercury to the cure of fevers we are supported by professor Chapman, who in speaking of Bilious Fever observes, "I am clearly of opinion that the disease is highly "bilious requiring for its cure strong mercurial purges. "Whether it be expedient to urge the medicine to a point "of Salivation, I am not prepared to pronounce decisively. "As a general rule it obviously cannot be necessary." And again in speaking of Yellow Fever he observes "the Medicine (Calomel) was applied not only to open the bowels "copiously but to excite salivation. At first this plan was deemed ser gulenly efficacious, so much so indeed "that in the enthusiasm of the moment, it was proclaimed "that death never took place after Mercury evinced "its effects on the system. But a cooler, & more deliberate "observation soon exposed the illusion, & we all came "ultimately to distrust the propriety of the practice." (Therap. Vol 2d 296 & 7.)

In the winter of 1820 I was informed by a respectable correspondent that two modes of practice prevailed in the Jefferson

of

New York in the treatment of Typhus Fever. During the three months that Doctor Stoddard attended the infirmary there were upwards of Sixty cases of Typhus Fever, which he treated in a remarkably mild manner. Giving mild purgatives, gentle diaphoretics, with the application of cold water to the surface of the body. Out of this number only 3 or 4 patients died. He was succeeded by Doctor Francis who invariably endeavored to produce a salivation, the result from an equal number was very greatly in favor of Doctor Stoddard's practice

And now we may mention that this practice of salivating generally in febrile affections has its origin (or at least had not its origin, its use has been much encouraged) in the belief that after a ptyalism takes place in fever, the patient generally recovers. — And it was to this circumstance alone perhaps that Calomel gained much of its celebrity in the cure of fevers, particularly the Yellow Fever (Vide Chapman's Therap: Vol. 2d p. 290.) — This belief has unfortunately led to very erroneous practice. It is usual with many of the southern physicians as soon as they have exhausted an emetick & cathartic, & perhaps detracted a small quantity of blood, to commence with small quantities of Calomel

~~with~~

aspirated by the strong mercurial ointment rubbed on the surface of the body, thinking as they have already observed that if they can "cut short the disease" or produce a ptyalism before mortal symptoms appear, their patient is secure from danger. – This obviously has two pernicious tendencies. Given too early it rarely affects the mouth at all, aggravates all the symptoms; what is worse superseded better remedies, which in their rage to salivate, are neglected or forgotten. –

We believe in fever where ptyalism is induced that it is owing to the same cause, which produces a free healthy perspiration in a practicable case of fever, that they are the effect of a CRISIS & not the CAUSE of it. –
In many cases where physicians give Calomel prematurely their patients sink under the disease before salivation can be induced; at other times when from the strength of the constitution aided probably by other remedies, the patient bears off against the effects of the disease, a crisis takes place, a gentle soreness of the mouth is the consequence & not the CAUSE of it. –
Where for instance in fever when it was thought during the course of it to give a pill of Calomel of 8 or 10 grs every night for the purpose of producing an evacuation or

the succeeding morning, we have generally expected, hailed with pleasure as a favorable symptom a gentle soreness of the gums; yet we repeat again that we do not look upon it as the cause, but as the result of returning health.

In syphilis Mercury has for many years stood unrivalled; this disease which was once so prominent to civilized as well as savage nations has at length met with a complete check in the remedy. Whether this disease can be removed by any remedy except this is a question which admits of some doubt. In the early stages of the disease before the system becomes contaminated, it certainly cannot be necessary, as the disease generally yields readily to local applications. But when the disease becomes general although we will not say that there is no other remedy, yet we should think it hazardous to neglect entirely the use of mercury. We have some doubts whether in the cure of the disease ptyalism is always if at all necessary. It is probable that the system can be sufficiently under a mercurial impression to remove the disease without its wounding any thing of the kind on the salivary glands. We do not know that its shewing itself there particularly is any

Other of

thing more than an evidence that the Mercury has made a strong impression on the system generally, or, that the particular circumstances contributes in any degree to the restoration of the patient. We have in two instances seen pills of the Oxymuriate of Mercury given in cases of Syphilis that had been protracted for several months, with complete relief to the patients without its making any sensible impression on the salivary glands.

In Syphilitic Rheumatism accompanied by venereal Nodes we can speak confidently of the virtues of Mercury — We have seen two or three cases of the kind, which resisted every other remedy, & nothing but a copious salivation kept up for a considerable length of time & aided by the Lisbon diet drink was competent to the cure. A mild salivation had been tried several times without any advantage to the patients —

A course similar to this appears to be the only remedy in Chronic Rheumatism. When confirmed nothing less than completely revolutionizing the system seems to afford any thing like permanent relief. —

In acute Hepatitis after the usual depleting remedies we would use Mercury as a purgative fully stated in its Chronic state where suppuration had not actually taken place, a ptyalism seems to be the only resort: As in all other cases we must be governed by circumstances. When there was tension in the pulse accompanied by febrile symptoms we should always promote depletion. —

In chronic affections of the chest, particularly, those which would lead us to suppose there was danger of phthisis pulmonalis, we should generally prescribe Mercury ~~with~~ But in confirmed phthisis experience has shewn that it is not an appropriate remedy. —

We intentionally omit many diseases to which this remedy might be properly applied. It was our object when we commenced this dissertation merely to give a brief outline of the use of Mercury, & to shew as nearly as the nature of the subject would allow under what particular circumstances the medicine should be administered.

It now

It now only remains for us to mention one amongst many other bad effects resulting from the use of this medicine, & the remedy for it. —

Chapter IV. —

Although we have condemned the indiscriminate use of Mercury in the diseases of children, yet we would not be understood condemning it in every instance — The diseases of children although generally more simple than those of adults, often require remedies equally energetic. And it sometimes happens that they cannot be removed without the liberal use of Mercury as for instance, for gastric syphilis — It is well known how extremely difficult it is to induce a salivation in children, & how very untractable & dangerous a salivation is when excited — It is so much so, that many practitioners omit its use entirely, as gangrene, mortification seem dead to effect sometimes the consequences.

It affords me much pleasure to state that Doctor Fields of Petersburg Virginia, a gentleman of the highest respectability both as a man, & as a physician has discovered by several experiments that when the salivary

salivary glands, cheeks &c are completely gangrenous that emetics afford almost immediate relief. That they sometimes entirely change the features of the case without any loss of substance, when that is not the case & sloughing takes place, it is infinitely more mild in its duration. The rare occurrence of gangrene in adults has prevented her making a trial of the remedy in these cases. Should future experiments prove this to be the fact generally the discovery will be no inconsiderable acquisition to medical science. ———

Jos. G. Waton

94

Trunsiat of Iron
W. A. Geyer 1823.